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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.        | CONFIRMATION NO.       |
|--|-------------|----------------------|----------------------------|------------------------|
| 09/879,491   | 06/12/2001  | Frederick D. Busche  | RSW920000174US1            | 5033                   |
| Duke Yee<br>Yee & Associates P C<br>4100 Alpha Road Suite 1100<br>Dallas, TX 75244 |             |                      | EXAMINER<br>LASTRA, DANIEL |                        |
|  |             |                      | ART UNIT<br>3688           | PAPER NUMBER           |
|  |             |                      | MAIL DATE<br>05/28/2009    | DELIVERY MODE<br>PAPER |

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1 UNITED STATES PATENT AND TRADEMARK OFFICE  
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4 BEFORE THE BOARD OF PATENT APPEALS  
5 AND INTERFERENCES  
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8 *Ex parte* FREDERICK D. BUSCHE  
9

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11 Appeal 2008-004750  
12 Application 09/879,491  
13 Technology Center 3600  
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15  
16 Decided:<sup>1</sup> May 28, 2009  
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18  
19 Before MURRIEL E. CRAWFORD, ANTON W. FETTING, and  
20 BIBHU R. MOHANTY, *Administrative Patent Judges*.

21  
22 FETTING, *Administrative Patent Judge*.  
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25 DECISION ON APPEAL  
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27 STATEMENT OF THE CASE

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<sup>1</sup> The two month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

Frederick D. Busche (Appellant) seeks review under 35 U.S.C. § 134 of a non-final rejection of claims 1-8, 10-22, 24-35, and 37-43, the only claims pending in the application on appeal.

We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b) (2002).

We AFFIRM-IN-PART.

The Appellant invented a way of predicting customer behavior based on data network geography (Specification 3:6-8).

An understanding of the invention can be derived from a reading of exemplary claims 1, 15, 29, and 41-43 which are reproduced below [bracketed matter and some paragraphing added].

1. 1. A data processing machine implemented method of selecting data sets for use with a predictive algorithm based on data network geographical information, comprising data processing machine implemented steps of:

[1] generating a first statistical distribution of a training data set;

[2] generating a second statistical distribution of a testing data set;

[3] using the first statistical distribution and the second statistical distribution to identify a discrepancy between the first statistical distribution and the second statistical distribution with respect to the data network geographical information by comparing at least one of the first statistical distribution and the second statistical distribution to a statistical distribution of a customer database to determine if at least one of the training data set and the testing data set are geographically representative of a customer population represented by the customer database;

[4] modifying selection of entries in one or more of the training data set and the testing data set based on the discrepancy

between the first statistical distribution and the second statistical distribution; and  
[5] using the modified selection of entries by the predictive algorithm.

15. An apparatus for selecting data sets for use with a predictive algorithm based on data network geographical information, comprising:

[1] a statistical engine;

[2] a comparison engine coupled to the statistical engine,

wherein the statistical engine

generates a first statistical distribution of a training data set and a second distribution of a testing data set,

the comparison engine

uses the first statistical distribution and the second distribution to identify a discrepancy between the first statistical distribution and the second distribution with respect to the data network geographical information by comparing at least one of the first statistical distribution and the second statistical distribution to a statistical distribution of a customer database to determine if at least one of the training data set and the testing data set are geographically representative of a customer population represented by the customer database,

modifies selection of entries in one or more of the training data set and the testing data set based on the discrepancy between the first statistical distribution and the second distribution, and provides the modified selection of entries for use by the predictive algorithm; and

[3] a predictive algorithm device that uses the modified selection of entries and the predictive algorithm.

29. A computer program product in a computer readable medium comprising instructions for enabling a data processing

machine to select data sets for use with a predictive algorithm based on data network geographical information, comprising:

[1] first instructions for generating a first statistical distribution of a training data set;

[2] second instructions for generating a second statistical distribution of a testing data set;

[3] third instructions for using the first statistical distribution and the second statistical distribution to identify a discrepancy between the first statistical distribution and the second statistical distribution with respect to the data network geographical information by comparing at least one of the first statistical distribution and the second statistical distribution to a statistical distribution of a customer database to determine if at least one of the training data set and the testing data set are geographically representative of a customer population represented by the customer database;

[4] fourth instructions for modifying selection of entries in one or more of the training data set and the testing data set based on the discrepancy between the first statistical distribution and the second statistical distribution; and

[5] fifth instructions for using the modified selection of entries by the predictive algorithm.

41. A data processing machine implemented method of predicting customer behavior based on data network geographical influences, comprising data processing machine implemented steps of:

[1] obtaining data network geographical information regarding a plurality of customers,

the data network geographic information comprising frequency distributions of both

(i) number of data network links between a customer geographical location and one or more web site data network geographical locations, and

- 1 (ii) size of a click stream for arriving at the one or more web  
2 site data network geographical locations;  
3 [2] training a predictive algorithm using the data network  
4 geographical information; and  
5 [3] using the predictive algorithm to predict customer behavior  
6 based on the data network geographical information.

7  
8 42. An apparatus for predicting customer behavior based on  
9 data network geographical influences, comprising:

10 [1] means for obtaining data network geographical information  
11 regarding a plurality of customers, the data network geographic  
12 information comprising frequency distributions of both

13 (i) number of data network links between a customer  
14 geographical location and one or more web site data network  
15 geographical locations, and

16 (ii) size of a click stream for arriving at the one or more web  
17 site data network geographical locations;

18 [2] means for training a predictive algorithm using the data  
19 network geographical information; and

20 [3] means for using the predictive algorithm to predict customer  
21 behavior based on the data network geographical information.

22  
23 43. A computer program product in a computer readable  
24 medium comprising instructions for enabling a data processing  
25 machine to predict customer behavior based on data network  
26 geographical influences, comprising:

27 [1] first instructions for obtaining data network geographical  
28 information regarding a plurality of customers, the data network  
29 geographic information comprising frequency distributions of  
30 both

31 (i) number of data network links between a customer  
32 geographical location and one or more web site data network  
33 geographical locations, and

(ii) size of a click stream for arriving at the one or more web site data network geographical locations;  
[2] second instructions for training a predictive algorithm using the data network geographical information; and  
[3] third instructions for using the predictive algorithm to predict customer behavior based on the data network geographical information.

This appeal arises from the Examiner's Non-Final Rejection, mailed June 1, 2007. The Appellant filed an Appeal Brief in support of the appeal on October 31, 2007. An Examiner's Answer to the Appeal Brief was mailed on January 16, 2008.

#### PRIOR ART

The Examiner relies upon the following prior art:

|       |                 |               |
|-------|-----------------|---------------|
| Menon | US 5,537,488    | Jul. 16, 1996 |
| Wu    | US 6,741,967 B1 | May 25, 2004  |

#### REJECTIONS

Claims 1-8, 10-22, 24-35, and 37-43 stand rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

Claims 1, 15, 29, and 41-43 stand rejected under 35 U.S.C. § 112, first paragraph, as lacking a supporting written description within the original disclosure.

Claims 1-8, 10-22, 24-35, and 37-43 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Menon, Wu, and Appellant's Admitted Prior Art.<sup>2</sup>

## ISSUES

The issue of whether the Appellant has sustained its burden of showing that the Examiner erred in rejecting claims 1-8, 10-22, 24-35, and 37-43 rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter turns on the category of subject matter and the machine or transformation test.

The issue of whether the Appellant has sustained its burden of showing that the Examiner erred in rejecting claims 1, 15, 29, and 41-43 under 35 U.S.C. § 112, first paragraph, as lacking a supporting written description within the original disclosure turns primarily on what is meant by "using."

The issue of whether the Appellant has sustained its burden of showing that the Examiner erred in rejecting claims 1-8, 10-22, 24-35, and 37-43 under 35 U.S.C. § 103(a) as unpatentable over Menon, Wu, and Appellant's Admitted Prior Art turns primarily on whether Wu describes the particular type of analysis claimed.

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<sup>2</sup> The Examiner couched this rejection as two separate rejections with the order of the references cited changed in each rejection. We combine these rejections for administrative convenience given that the claims are rejected over the same art in each case.

FACTS PERTINENT TO THE ISSUES

The following enumerated Findings of Fact (FF) are supported by a preponderance of the evidence.

*Facts Related to Claim Construction*

01. The Specification defines data network geography as the collective morass of web sites and web pages that make up the data network navigated to ultimately arrive at the goods and services that customers wish to purchase (Specification 4:16-20).

*Facts Related to Appellant's Disclosure*

02. The Specification describes the state of the art at the time of filing as such that, when using artificial intelligence algorithms to discover patterns in behavior exhibited by customers, it is necessary to create training data sets where a predicted outcome is known as well as testing data sets where the predicted outcome is known to be able to validate the accuracy of a predictive algorithm. The predictive algorithm, for example, may be designed to predict a customer's propensity to respond to an offer or his propensity to buy a product. It was also known that ease of access to various goods and services may also influence the customer's ultimate purchase patterns. That is, if a customer is able to obtain access to the goods and services more easily, the customer is typically more likely to engage in the purchase of such goods and services (Specification 3:10 – 4:13).

03. The Specification describes using the modified selection of entries by a predictive algorithm. The Specification states that if a user inputs request parameters for requesting a prediction of

customer behavior, the customer behavior rules will be applied to the input parameters and a customer behavior prediction will be output (Specification 45:16-20).

*Menon*

04. Menon is directed to pattern recognition for recognizing input data patterns from a subject and classifying the subject. Menon first performs a training operation in which input training patterns are received and grouped into clusters. Each cluster of training patterns is associated with a category having a category definition based on the training patterns in the cluster. As each training pattern is received, a correlation or distance is computed between it and each of the existing categories. Based on the correlations, a best match category is selected. The best match correlation is compared to a preset training correlation threshold. If the correlation is above the threshold, then the training pattern is added to the cluster of the best match category, and the definition of the category is updated in accordance with a learning rule to include the contribution from the new training pattern. If the correlation is below the threshold, a new category defined by the training pattern is formed, the cluster of the new category having only the single training pattern (Menon 1:22-40).

05. To label categories, Menon counts the number of training patterns of each class within the pattern cluster of each category. It uses the counts to generate a *training class histogram* for each category which shows the number of training patterns of each class within the category's cluster. Menon uses the training

1 histograms of the categories to assign labels to the categories  
2 (Menon 2:21-42).

3 06. Menon combines the learning features of adaptive pattern  
4 recognition systems such as neural networks with statistical  
5 decision making to perform its classifications. The definition of  
6 categories during training, the labeling of the categories and the  
7 output classifications are all performed in terms of histograms.  
8 Thus, the classifications are associated with a probability of  
9 correct classification (Menon 4:14-21).

10 07. When Menon's system is trained, it receives training data  
11 patterns from various subjects or classes. Each training pattern is  
12 associated with a known class and takes the form of a feature  
13 pattern vector  $I_{INP}$ . Each category definition  $I_k$  is expressed in a  
14 vector format compatible with the feature vector. As each pattern  
15 vector is received, a correlation  $C_{TRN}$  between it and each existing  
16 category definition is performed. The correlation  $C_{TRN}$  is then  
17 compared to a preset training threshold  $\lambda_{TRN}$ . If a category is  
18 found for which the correlation  $C_{TRN}$  exceeds the threshold  $\lambda_{TRN}$ ,  
19 then the training pattern is added to the cluster of that category,  
20 and the definition vector  $I_k$  of that category is modified to  
21 incorporate the effects of the feature vector  $I_{INP}$  of the input  
22 pattern. If more than one category has a correlation  $C_{TRN}$  above  
23 the threshold  $\lambda_{TRN}$ ,  $I_k$  for the best match category, i.e., the category  
24 with the highest correlation, is modified and the training pattern is  
25 added to the cluster of that category (Menon 5:38 – 6:7).

26 Wu

- 1            08. Wu is directed to providing Web product managers with quick  
2            and detailed feedback on a visitor's satisfaction of the Web  
3            product managers' own and competitive products. Specifically,  
4            Wu aids a customer in designing a usability test for typical tasks  
5            faced by a visitor to the customer's site. Wu administers a  
6            usability test to a pre-qualified pool of testers meeting desired  
7            demographic constraints. The usability tests measure a visitor's  
8            success in achieving the visitor's objectives and also prompt for  
9            context-specific feedback ranging from the aesthetics of the  
10           design of the customer's site to a reason why a page request was  
11           terminated. Statistics are aggregated across the testing population  
12           and are presented as data with recommended actions backed up by  
13           analysis (Wu 4:26-50).
- 14           09. Wu describes a sample test script for testing the usability of a  
15           web site. This script states that among the implicit data to be  
16           collected are links clicked on, links seen per page, and number of  
17           distinct sites visited (Wu 18:Table B).
- 18           10. Wu describes combining collected data with data from other  
19           clients in the analysis. The data sent may either be in raw form, or  
20           summary statistics after processing has been performed at the  
21           client (Wu 32:2-6).
- 22           11. Wu describes using its test to determine if a purchase rate  
23           increase was due to better navigational cues and other factors (Wu  
24           36: 24-31).
- 25           12. Wu describes performing additional analysis on the gathered  
26           data. This analysis may include simple aggregation (sums and

averages, for example), selection (production of a subsample) of "typical" data, finding outliers and either excluding them or focusing on them, measuring correlations between data factors, measuring the confidence in a hypothesis (Wu 33:48-55).

*Facts Related To Differences Between The Claimed Subject Matter And The Prior Art*

13. None of the references describe determining if a training data set or testing data set are geographically representative of a customer population represented by the customer database.

14. None of the references describe obtaining data network geographical information comprising frequency distributions of the number of data network links between a customer geographical location and one or more web site data network geographical locations.

*Facts Related To The Level Of Skill In The Art*

15. Neither the Examiner nor the Appellant has addressed the level of ordinary skill in the pertinent arts of systems analysis and programming, predictive systems, training systems, and customer analysis. We will therefore consider the cited prior art as representative of the level of ordinary skill in the art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) ("[T]he absence of specific findings on the level of skill in the art does not give rise to reversible error 'where the prior art itself reflects an appropriate level and a need for testimony is not shown'") (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 163 (Fed. Cir. 1985)).

*Facts Related To Secondary Considerations*

16. There is no evidence on record of secondary considerations of non-obviousness for our consideration.

## PRINCIPLES OF LAW

### *Claim Construction*

During examination of a patent application, pending claims are given their broadest reasonable construction consistent with the specification. *In re Prater*, 415 F.2d 1393, 1404-05 (CCPA 1969); *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004).

Limitations appearing in the specification but not recited in the claim are not read into the claim. *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369 (Fed. Cir. 2003) (claims must be interpreted “in view of the specification” without importing limitations from the specification into the claims unnecessarily).

Although a patent applicant is entitled to be his or her own lexicographer of patent claim terms, in *ex parte* prosecution it must be within limits. *In re Corr*, 347 F.2d 578, 580 (CCPA 1965). The applicant must do so by placing such definitions in the specification with sufficient clarity to provide a person of ordinary skill in the art with clear and precise notice of the meaning that is to be construed. *See also In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (although an inventor is free to define the specific terms used to describe the invention, this must be done with reasonable clarity, deliberateness, and precision; where an inventor chooses to give terms uncommon meanings, the inventor must set out any uncommon definition in some manner within the patent disclosure so as to give one of ordinary skill in the art notice of the change).

1 *Statutory Subject Matter*

2 [Whether a] patent is invalid for failure to claim statutory  
3 subject matter under § 101, is a matter of both claim  
4 construction and statutory construction.

5 *State St. Bank & Trust Co. v. Signature Fin. Group*, 149 F.3d 1368, 1370  
6 (Fed. Cir. 1998).

7 Whoever invents or discovers any new and useful process,  
8 machine, manufacture, or composition of matter, or any new  
9 and useful improvement thereof, may obtain a patent therefor,  
10 subject to the conditions and requirements of this title.

11 35 U.S.C. § 101.

12 [T]he Court has held that a claim is not a patent-eligible  
13 “process” if it claims “laws of nature, natural phenomena, [or]  
14 abstract ideas.” *Diamond v. Diehr*, 450 U.S. 175, 185, 101  
15 S.Ct. 1048, 67 L.Ed.2d 155 (1981) (citing *Flook*, 437 U.S. at  
16 589, 98 S.Ct. 2522, and *Gottschalk v. Benson*, 409 U.S. 63, 67,  
17 93 S.Ct. 253, 34 L.Ed.2d 273 (1972)). Such fundamental  
18 principles [as “laws of nature, natural phenomena, [or] abstract  
19 ideas”] are “part of the storehouse of knowledge of all men ...  
20 free to all men and reserved exclusively to none.” *Funk Bros.*  
21 *Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130, 68 S.Ct.  
22 440, 92 L.Ed. 588 (1948); *see also Le Roy v. Tatham*, 55 U.S.  
23 (14 How.) 156, 175, 14 L.Ed. 367 (1852) (“A principle, in the  
24 abstract, is a fundamental truth; an original cause; a motive;  
25 these cannot be patented, as no one can claim in either of them  
26 an exclusive right.”). “Phenomena of nature, though just  
27 discovered, mental processes, and abstract intellectual concepts  
28 are not patentable, as they are the basic tools of scientific and  
29 technological work.” *Benson*, 409 U.S. at 67. . . .

30 *In re Bilski*, 545 F.3d 943, 952 (Fed. Cir. 2008) (footnote omitted).

31 The Court in *Diehr* thus drew a distinction between those  
32 claims that “seek to pre-empt the use of” a fundamental  
33 principle, on the one hand, and claims that seek only to  
34 foreclose others from using a particular “*application*” of that  
35 fundamental principle, on the other. 450 U.S. at 187, 101 S.Ct.

1048. Patents, by definition, grant the power to exclude others from practicing that which the patent claims. *Diehr* can be understood to suggest that whether a claim is drawn only to a fundamental principle is essentially an inquiry into the scope of that exclusion; i.e., whether the effect of allowing the claim would be to allow the patentee to pre-empt substantially all uses of that fundamental principle. If so, the claim is not drawn to patent-eligible subject matter.

*Id.* 545 F.3d at 953.

The Supreme Court . . . has enunciated a definitive test to determine whether a process claim is tailored narrowly enough to encompass only a particular application of a fundamental principle rather than to pre-empt the principle itself. A claimed process is surely patent-eligible under § 101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing. *See Benson*, 409 U.S. at 70, 93 S.Ct. 253 (“Transformation and reduction of an article ‘to a different state or thing’ is the clue to the patentability of a process claim that does not include particular machines.”); *Diehr*, 450 U.S. at 192, 101 S.Ct. 1048 (holding that use of mathematical formula in process “transforming or reducing an article to a different state or thing” constitutes patent-eligible subject matter); *see also Flook*, 437 U.S. at 589 n.9, 98 S.Ct. 2522 (“An argument can be made [that the Supreme] Court has only recognized a process as within the statutory definition when it either was tied to a particular apparatus or operated to change materials to a ‘different state or thing’ ”); *Cochrane v. Deener*, 94 U.S. 780, 788, 24 L.Ed. 139 (1876) (“A process is . . . an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing.”).

*Id.* 545 F.3d at 954 (footnote omitted).

The machine-or-transformation test is a two-branched inquiry; an applicant may show that a process claim satisfies § 101 either by showing that his claim is tied to a particular machine,

or by showing that his claim transforms an article. *See Benson*, 409 U.S. at 70, 93 S.Ct. 253. Certain considerations are applicable to analysis under either branch. First, as illustrated by *Benson* and discussed below, the use of a specific machine or transformation of an article must impose meaningful limits on the claim's scope to impart patent-eligibility. *See Benson*, 409 U.S. at 71-72, 93 S.Ct. 253. Second, the involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity. *See Flook*, 437 U.S. at 590 . . . .

*Id.* 545 F.3d at 961-62.

### *Written Description*

The first paragraph of 35 U.S.C. § 112 requires that the specification shall contain a written description of the invention. This requirement is separate and distinct from the enablement requirement. *See, e.g., Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 (Fed. Cir. 1991).

The “written description” requirement implements the principle that a patent must describe the technology that is sought to be patented; the requirement serves both to satisfy the inventor's obligation to disclose the technologic knowledge upon which the patent is based, and to demonstrate that the patentee was in possession of the invention that is claimed.

*Capon v. Eshhar*, 418 F.3d 1349, 1357 (Fed. Cir. 2005).

One shows that one is “in possession” of *the invention* by describing *the invention*, with all its claimed limitations, not that which makes it obvious. *Id.* (“[T]he applicant must also convey to those skilled in the art that, as of the filing date sought, he or she was in possession of *the invention*. The invention is, for purposes of the ‘written description’ inquiry, *whatever is now claimed*.”) (emphasis in original). One does that by such descriptive means as words, structures, figures, diagrams, formulas, etc., that fully set forth the claimed invention. Although the exact terms need not be used *in haec verba*, see *Eiselstein v. Frank*, 52 F.3d 1035, 1038 . . . (Fed.

Cir.1995) (“[T]he prior application need not describe the claimed subject matter in exactly the same terms as used in the claims . . .”), the specification must contain an equivalent description of the claimed subject matter.

*Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997).

It is the disclosures of the applications that count. Entitlement to a filing date does not extend to subject matter which is not disclosed, but would be obvious over what is expressly disclosed. It extends only to that which is disclosed. While the meaning of terms, phrases, or diagrams in a disclosure is to be explained or interpreted from the vantage point of one skilled in the art, all the limitations must appear in the specification. The question is not whether a claimed invention is an obvious variant of that which is disclosed in the specification. Rather, a prior application itself must describe an invention, and do so in sufficient detail that one skilled in the art can clearly conclude that the inventor invented the claimed invention as of the filing date sought.

*Id.* at 1571-72.

*Obviousness*

A claimed invention is unpatentable if the differences between it and the prior art are “such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.” 35 U.S.C. § 103(a) (2000); *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007); *Graham v. John Deere Co.*, 383 U.S. 1, 13-14 (1966).

In *Graham*, the Court held that that the obviousness analysis is bottomed on several basic factual inquiries: “[1] the scope and content of the prior art are to be determined; [(2)] differences between the prior art and the claims at issue are to be ascertained; and [(3)] the level of ordinary skill in the pertinent art resolved.” 383 U.S. at 17. *See also KSR*, 550 U.S. at 406-07. “The combination of familiar elements according to known

1 methods is likely to be obvious when it does no more than yield predictable  
2 results.” *Id.* at 416.

3 “When a work is available in one field of endeavor, design incentives  
4 and other market forces can prompt variations of it, either in the same field  
5 or a different one. If a person of ordinary skill can implement a predictable  
6 variation, § 103 likely bars its patentability.” *Id.* at 417.

7 “For the same reason, if a technique has been used to improve one  
8 device, and a person of ordinary skill in the art would recognize that it would  
9 improve similar devices in the same way, using the technique is obvious  
10 unless its actual application is beyond his or her skill.” *Id.*

11 “Under the correct analysis, any need or problem known in the field  
12 of endeavor at the time of invention and addressed by the patent can provide  
13 a reason for combining the elements in the manner claimed.” *Id.* at 420.

14  
15 ANALYSIS

16 *Claims 1-8, 10-22, 24-35, and 37-43 rejected under 35 U.S.C. § 101 as*  
17 *directed to non-statutory subject matter.*

18 The Appellant argues each independent claim with the claims that  
19 depend from it as a group. The sole exception is that claim 7 is separately  
20 argued from parent claim 1.

21 The Examiner found that none of the claims recite a concrete and  
22 tangible result. Although they recite using a predictive algorithm they do  
23 not recite a concrete and tangible result from using the algorithm. The  
24 Examiner also found that claims 29 and 43 do not meet the definition of a  
25 true data structure.

1           The Appellant contends that the claims each fall within the  
2     enumerated categories of statutory subject matter and produce non abstract  
3     results (Br. 14-19).

4           With respect to method claim 1 and the claims depending therefrom,  
5     we apply the machine-or-transformation test, as described in *Bilski*, to  
6     determine whether the subject matter are patent-eligible under 35 U.S.C. §  
7     101.

8           These claims recite a series of process steps that are not tied in any  
9     manner to a machine. In other words, these claims do not limit the process  
10    steps to any specific machine or apparatus. Thus, the claims fail the first  
11    prong of the machine-or-transformation test because they are not tied to a  
12    particular machine or apparatus. The steps of these process claims also fail  
13    the second prong of the machine-or-transformation test because the data  
14    does not represent physical and tangible objects.<sup>3</sup> Rather, the data represents  
15    information about a generic training and testing data set, which are  
16    intangible data. Although the data is compared to a customer database, the  
17    customer database is not transformed. Thus, the process of claim 1 and the  
18    claims depending therefrom fails the machine-or-transformation test and is  
19    not patent-eligible under 35 U.S.C. § 101. We note that the Appellant  
20    separately argues claim 7 as generating recommendations (Br. 16).  
21    Generating such recommendations transforms nothing. It merely creates  
22    abstract subject matter, which is given no patentable weight. This claim  
23    fails the machine-or-transformation test for the same reasons.

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<sup>3</sup> Because the data does not represent physical and tangible objects, we need not reach the issue of whether mere calculation of a number based on inputs

Computer program product claim 29 and the claims dependent therefrom recite instructions on a computer readable medium for executing the method steps in claim 1 and its dependent claims. The issue presented by these claims is whether recitation of such steps is more than the manipulation of abstract ideas. We find that the steps performed by the instructions do no more than generate arbitrary data sets, compare them, modify them, and then use them in some unspecified predictive algorithm. Thus, since the data is totally arbitrary and is no more than the abstract representation of ideas that may be equally abstract, the computer program product contains instructions that do no more than manipulate such abstract ideas. *See In re Warmerdam*, 33 F.3d 1354, 1360 (Fed. Cir. 1994).

Apparatus claim 15 does recite particular structural limitations such as a statistical engine and comparison engine. Similarly, apparatus claim 42 recites means that are structurally identified in the Specification. Thus, we find the apparatus claims are directed to specific machines and are accordingly statutory subject matter. Process claim 41 and computer program product claim 43 both recite training a machine and accordingly are directed to machines that have such structure as may be adapted by training. Therefore these claims are drawn to statutory subject matter as well.

The Appellant has not sustained its burden of showing that the Examiner erred in rejecting claims 1-8, 10-14, 29-35, and 37-40 rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

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of other numbers is a sufficient “transformation” of data to render a process patent-eligible under § 101.

1           The Appellant sustained its burden of showing that the Examiner  
2       erred in rejecting claims 15-22, 24-28, and 41-43 rejected under 35 U.S.C. §  
3       101 as directed to non-statutory subject matter.

4       *Claims 1, 15, 29, and 41-43 rejected under 35 U.S.C. § 112, first paragraph,*  
5       *as lacking a supporting written description within the original disclosure.*

6           The Examiner found that nowhere in the Appellant's Specification is  
7       it explained how the predictive algorithm would predict customer behavior  
8       based upon network geographic location.

9           The Appellant contends that the Specification adequately describes  
10      how to use the invention (Br. 19-23 and 23-27). Since the issue is the  
11      description of use of the predictive algorithm, the Specification 45  
12      describing the use of the algorithm is most pertinent (FF 03). The predictive  
13      algorithm may be used to generate customer behavior predictions  
14      (Specification 45:17-18). That is, the usage of the algorithm is simply  
15      generating output from the disclosed algorithm. The Examiner found that  
16      the Specification did not describe how to predict customer behavior, but the  
17      claim only requires using the algorithm, not predicting behavior. The  
18      Specification adequately describes such usage as generating prediction  
19      output from the algorithm.

20          The Appellant has sustained its burden of showing that the Examiner  
21      erred in rejecting claims 1, 15, 29, and 41-43 under 35 U.S.C. § 112, first  
22      paragraph, as lacking a supporting written description within the original  
23      disclosure.

*Claims 1-8, 10-22, 24-35, and 37-43 rejected under 35 U.S.C. § 103(a) as unpatentable over Menon, Wu, and Appellant's Admitted Prior Art.*

The Examiner found that Wu described determining if a training data set or testing data set are geographically representative of a customer population represented by the customer database (in claims 1-40) and obtaining data network geographical information comprising frequency distributions of the number of data network links between a customer geographical location and one or more web site data network geographical locations (in claims 41-43).

The Appellant contends that Wu does not describe such determinations (Br. 28-30). The Examiner pointed to Wu's Table B and column 36, lines 24-30 (Answer 6) and column 24, lines 1-25 (Answer 12).

Table B refers to collecting links clicked on and pages visited. Wu column 36, lines 24-30 states that its algorithm can discern whether a rise in purchase rate is due to better navigational cues. Wu, column 24, lines 1-25 lists survey questions regarding site visits.

None of these makes reference to the number of links between a customer geographical location and one or more web site data network geographical locations or to determining if a training data set or testing data set are geographically representative of a customer population represented by the customer database.

The Examiner makes no attempt to map Wu to these specific requirements, but only point us to table B, column 24, lines 1-25, and column 36, lines 24-30. The Examiner does not say that Wu actually states these limitations; only that it would be obvious to use these limitations with Wu – but with no rationale.



DECISION

To summarize, our decision is as follows:

- The rejection of claims 1-8, 10-14, 29-35, and 37-40 rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter is sustained.
- The rejection of claims 15-22, 24-28, and 41-43 rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter is not sustained.
- The rejection of claims 1, 15, 29, and 41-43 under 35 U.S.C. § 112, first paragraph, as lacking a supporting written description within the original disclosure is not sustained.
- The rejection of claims 1-8, 10-22, 24-35, and 37-43 under 35 U.S.C. § 103(a) as unpatentable over Menon, Wu, and Appellant's Admitted Prior Art is not sustained.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED-IN-PART

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Duke Yee  
Yee & Associates P C  
4100 Alpha Road Suite 1100  
Dallas, TX 75244